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AGU Fall Meeting, San Francisco California
Presentation Date: 12/15/00

Abstract Title: Aerosol Observations witht the Terra Multi-angle Imaging SpectroRadiometer

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The Multi-angle Imaging SpectroRadiometer (MISR) instrument has been collecting Earth imagery since February 24, 2000. MISR contains nine cameras pointed at fixed along-track directions, and acquires images with view angles at the Earth's surface ranging from 70.5 degrees forward of nadir to 70.5 degrees aftward. Each camera contains four CCD line arrays filtered to blue, green, red, and near-infrared wavelengths, and spatial sampling ranging from 275 m to 1.1 km is obtained over a 400-km swath width.

For the study of atmospheric aerosols, the multiple view angle images afford new techniques to retrieve optical depth and particle properties over ocean and land; enhanced sensitivity to optically thin aerosol layers relative to nadir-viewing sensors as a result of the long slant paths; and a combination of stereoscopic and multi-angle radiometric methods for distinguishing aerosols from clouds. This paper provides a progress report on the performance of the first generation MISR aerosol retrieval algorithms. Results in the form of imagery and quantitative retrievals will be presented. Among the case studies highlighted will be results obtained during the Southern Africa Regional Science Initiative (SAFARI-2000).